Responses to Comments in January 11, 2018 email from Wayne Jackson, EPA, to Dylan Meagher, DEP

Comment 1:
Thank you for clarifying the reasons for the discrepancies between some of the costs in Table A and the LTCPs. We are performing the same due diligence for the 100% CSO control costs (differences between cost estimates in Table C and LTCPs) and need your assistance to make sure we are adequately reconciling them.

On the basis of your answer to our question about the differences between the Table A and LTCP costs for the preferred alternatives, our understanding is that the differences in those cost estimates are primarily due to the inclusion of design and construction management costs in Table A that were not included in the LTCPs. However, when we compare Table C costs normalize to year 2018 dollars and LTCP costs normalize to year 2018 dollars with an additional 26% adjustment to account for design, DSDC, and construction management costs (footnote #2 in Table C), the differences still range between 28% and 58%. Below is a table showing the cost comparisons:

Location/ Waterbody	LTCP Cost Year	Table C Midpoint of Construction Year	Original LTCP Capital Costs ($M)	Original LTCP Capital Costs+26% ($M)	Normalized LTCP Capital Costs+26% ($M)	Original Table C Capital Costs ($M)	Normalized Table C Capital Costs ($M)	Normalized Capital Cost Difference: Normalized Table C minus Normalized LTCP+26% ($M)	% Higher Cost (normalized Table C cost compared to normalized LTCP+26% cost)
Alley Creek and Little Neck Bay	2013	2030	$ 535.00	$ 674.10	$ 791.00	$ 1,600.00	$ 1,090.03	$ 299.04	38%
Bergen & Thurston Basins	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bronx River	2015	2030	$ 660.00	$ 831.60	$ 915.34	$ 2,000.00	$ 1,362.54	$ 447.20	49%
Coney Island Creek	2016	2030	$ 205.30	$ 258.68	$ 275.77	$ 600.00	$ 408.76	$ 133.00	48%
Flushing Bay	2016	2033	$ 2,850.00	$ 3,591.00	$ 3,828.21	$ 9,800.00	$ 6,065.62	$ 2,237.41	58%
Flushing Creek	2014	2033	$ 1,685.59	$ 2,123.84	$ 2,413.70	$ 5,000.00	$ 3,094.70	$ 681.01	28%
Gowanus Canal	2015	2030	$ 846.00	$ 1,065.96	$ 1,173.31	$ 2,400.00	$ 1,635.05	$ 461.74	39%
Hutchinson River	2014	2030	$ 809.00	$ 1,019.34	$ 1,158.46	$ 2,300.00	$ 1,566.92	$ 408.47	35%
Jamaica Bay	TBD	2033	TBD	TBD	TBD	$ 8,300.00	$ 5,137.21	TBD	TBD
Newtown Creek	2017	2035	$ 1,371.00	$ 1,727.46	$ 1,783.60	$ 4,600.00	$ 2,670.71	$ 887.11	50%
Open Waters	TBD	2040	TBD	TBD	TBD	$162,900.00	$ 80,600.88	TBD	TBD
Paerdegat Basin [1]	2006	2033	$ 2,205.90	$ 2,779.43	$ 4,079.78	$ 5,100.00	$ 3,156.60	$ (923.19)	-28%
Westchester Creek	2014	2030	$ 728.90	$ 918.41	$ 1,043.76	$ 2,100.00	$ 1,430.67	$ 386.91	37%
Green Infrastructure Program	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] Paerdegat Basin costs in Table C appear to have not adjusted the LTCP costs by 26% (for design, DSDC, and construction management costs)

Can you help us explain the remaining discrepancy in the rightmost column of our spreadsheet?

Response:

After reviewing the version of Table C that DEP provided to EPA, we determined that the values in the column labeled "100% CSO Control Escalated Construction Costs" were based on midpoint-of-construction dates that were different from the dates presented in that version of Table C. In the attached revised Table C, the assumed Construction NTP, Construction Completion, and Midpoint of Construction dates have been revised to reflect the dates that the escalated costs were based on.

As noted in the footnotes to Table C, detailed studies have not been conducted on the potential construction issues, site acquisition requirements, or other factors that could affect implementation

schedules. As a result, there is a lot of uncertainty associated with the implementation schedules for the 100% control alternatives.

In addition to revising the construction dates, the following revisions have been made to Table C:

- *Revised footnotes to clarify that the Un-escalated Construction Costs are from the recent LTCPs, except for Jamaica Bay and Tribs, Paerdegat Basin and Citywide. The costs for the Jamaica Bay and Tribs and Citywide are from the respective Waterbody/Watershed Facilities Plans, and the cost for Paerdegat is from the 2006 Paerdegat LTCP. See the response to Question 2 below regarding Gowanus.*
- *Inserted values for "Un-escalated Construction Costs" that were missing from the original version of Table C.*
- *Added a column for "Un-escalated Capital Costs". These costs are the un-escalated construction costs plus design and engineering services during construction (ESDC), assumed to be 26% of the construction cost. See also the response to Question 2 below regarding the Gowanus costs.*
- *The year-of-estimates for Alley Creek, Coney Island Creek, Flushing Creek, Gowanus Canal, Hutchinson River, Citywide/Open Waters and Westchester Creek were revised to reflect the actual cost bases for the costs from the source documents for these waterbodies.*
- *For Paerdegat Basin, the $5.1B escalated cost presented in the original Table C had been escalated from a construction cost, not a capital cost (Table 7-5 of the Paerdegat LTCP shows the estimated construction cost of $2,206M). The revised Table C has the appropriately escalated capital cost ($6.5B), based on an un-escalated capital cost of $2,780M (1.26 x $2,206M).*
- *For Citywide, the $162B escalated cost presented in the original Table C had been escalated from a capital cost that double-counted the design and ESDC costs. The revised Table C reflects the $45B capital cost (Probable Total Project Cost) from Table 7-11 of the WB/WS Facilities Plan.*

Comment 2:

Why were Gowanus Canal 100% CSO Control costs in Table C based on the 2007 Waterbody Watershed Facility Plan ($1,134M – not escalated), instead of being based on the available 2015 LTCP costs ($846M capital costs – not escalated)?

Response:

Footnote no. 5 in the original Table C was incorrect. The un-escalated cost of $1,134M for Gowanus shown in the original Table C was not from the Waterbody/Watershed Facilities Plan, but was the LTCP construction cost of $846M rounded up to $900M and multiplied by 1.26 to add the design and ESDC costs. The revised Table C reflects the un-rounded LTCP construction cost of $846M.

Comment 3:

The NYC DEP web site indicates that, on December 19, 2017, the New York State Court of Appeals reversed a lower court decision that had invalidated the Water Board's resolution approving a new rate

schedule set to take effect on July 1, 2016. Does that mean that the FY 2017 wastewater rate of $6.19 per 100 cubic feet is now in effect until new rates are set and become effective in July 2018?

Response:

The December 19, 2017 Court of Appeals decision provides the Water Board with the authority to implement the 2.1% increase to water and wastewater rates as originally adopted by the Water Board on May 20, 2016. Were it to be implemented, the 2.1% rate increase would result in a wastewater rate of $6.19 per hcf. The 2.1% rate increase was not instituted on July 1, 2016 as originally planned, due to litigation over the FY 2017 water and sewer rate package. The Water Board intends to hold a public hearing on Friday January 26, 2018 to hear public testimony on whether to repeal the 2.1% increase. The public hearing will be immediately followed by a public meeting at which the Board will make a decision on whether to repeal the 2.1% increase. If the Board decides to repeal the 2.1% increase, customers will be charged at the wastewater rates described in the Board's FY 2016 rate schedule for the fiscal year ending June 30, 2018, which states a wastewater rate of $6.06 per hcf.

Comment 4:

Table C does not include land acquisition costs for the 100% CSO control option that Table A includes for the preferred alternatives. Is it possible for NYC to include land acquisition costs in Table C as well?

Response:

Siting evaluations have not been conducted for the 100% control alternatives, so the siting and land acquisition requirements are unknown. Due to the uncertainty over the site acquisition needs for these alternatives, it is not possible to develop an estimate for the land acquisition costs at this time.

Comment 5:

In #5 of your most recent responses to EPA questions, you said: "The costs on Table "B" are for historical expenses and all costs are based on the year in which these funds were committed/encumbered and they have not been escalated to 2018 dollars." Is it possible to provide the year those costs were committed/encumbered?

Response:

It is very difficult to itemize the years that costs were committed/ encumbered because some of the encumbered design costs date back to the 1990s, some construction was multiple phases and would have multiple years in which the funds were encumbered and some of these project costs also include Change Orders that occurred over time.

Revised Table C - LTCP CSO Program Cost Breakdown for 100% CSO Control

Waterbody	Year of Estimate	Unescalated Construction Costs ($M)[1]	Unescalated Capital Costs ($M)[2]	Construction NTP[3]	Construction Completion[3]	Midpoint of Construction[3]	100% CSO Control Escalated Capital Costs ($B)[4]	100% Control Assumptions	
								Project Description	Remaining CSO Outfalls Not Addressed
Alley Creek	2013	$535 M	$674 M	2035	2045	2040	$1.6	29.5 MG Storage Tank for TI-025	TI-007, 0.1 MGY
Bergen & Thurston Basins	**Included with Jamaica Bay**	**Included with Jamaica Bay**	**Included with Jamaica Bay**	**Included with Jamaica Bay**	**Included with Jamaica Bay**	**Included with Jamaica Bay**	**Included with Jamaica Bay**		
Bronx River	2015	$660 M	$832 M	2037	2047	2042	$2.0	60.9 MG Storage Tunnel for HP-004, HP-007, HP-008, HP-009	None
Coney Island Creek	2016	$205 M	$258 M	2035	2045	2040	$0.6	13.4 MG Storage Tunnel for OH-021	None
Flushing Bay	2016	$3,420 M	$4,309 M	2037	2047	2042	$9.9	66 MG Storage Tunnel and 400 MGD RTB for BB-006 and BB-008	BB-007 (38 MG); TI-012, TI-014 to TI-018 (48 MG total)
Flushing Creek	2014	$1,686 M	$2,124 M	2035	2045	2040	$4.9	130 MG Storage Tunnel for TI-011, TI-012 and TI-022	None
Gowanus Canal	2015	$846 M	$1,066 M	2035	2045	2040	$2.4	35 MG Storage Tunnel for RH-031, RH-033 to RH-038, OH-005 to OH-007, OH-024	None
Hutchinson River	2014	$809 M	$1,019 M	2035	2045	2040	$2.3	43.5 MG Storage Tunnel for HP-023, HP-024, HP-031	None
Jamaica Bay and Tribs	2007	$2,873 M	$3,620 M	2025	2040	2033	$8.2	Storage Tunnels for Bergen, Thurston and Fresh Creek.	Spring Creek Tank Discharge and Hendrix Creek
Paerdegat Basin	2006	$2,206 M	$2,780 M	2025	2040	2033	$6.5	200 MG Storage Tank	None
Newtown Creek	2017	$1,373 M	$1,730 M	2040	2055	2048	$4.6	138 MG Storage Tunnel and 100 MGD RTB for NC-015, NC-077, NC-083 and BB-026	Total of 17 outfalls (106 MG)
Citywide	2005	$35,714 M	$45,000 M	2030	2050	2040	$137.8	69 mile long, 32-ft diameter storage tunnel with 8 pump-out facilities	None
Westchester Creek	2014	$729 M	$919 M	2035	2045	2040	$2.1	50 MG Storage Tunnel for HP-012 to HP-016 and HP-033	None
Total	-	**$51,056 M**	**$64,331 M**	**2025**	**2035**	**2030**	**$182.8**		

Notes:

1. Estimated construction costs from recent LTCPs, except for Jamaica Bay and Tribs, Paerdegat Basin and Citywide. The costs for Jamaica Bay and Tribs, and Citywide are from the Waterbody/Watershed Facilities Plans, and the cost for Paerdegat Basin is from the 2006 Paerdegat Basin LTCP. Land acquisition costs are not included due to uncertainty over the extent of land acquisition needed.
2. Capital costs include Design and ESDC costs at 26% of construction cost

3. Implementation schedules for these projects are highly uncertain. No detailed engineering analysis was performed to determine if these projects are constructible, or to assess site acquisition requirements or other factors that could affect the implementation schedule.
4. Costs escalated to assumed midpoint of construction, assuming escalation rate of 3.25% per year